



Treatment options for self-injuring behaviour in adolescent females

Better acceptance of Ziprasidone (augmentation) due to lower weight gain

Libal G., Plener P., Fegert J.M.

Dept. of Child and Adolescent Psychiatry/Psychotherapy, University Hospital Ulm

Introduction:

In adolescent females with disorders of personality development self-injurious behaviour (SIB) is a very common problem. As these personality problems often have their roots in a traumatic history, anxiety is another issue to be considered.

SSRIs are so far the recommended medication in the management of both SIB and anxiety. The recent discussion on possible negative effects of SSRIs requires an efficient alternative.

Case series and reports indicate effectiveness of atypical neuroleptics (AN) in this population or in young adults with personality disorders. In clinical practice weight gain as a side effect of ANs limits their use in adolescence.

We use the AN Ziprasidone for the treatment of SIB because of the specific receptor profile.

Prevalence:

4% in the adult population (Klonsky et al. 2003 und Briere 1998)

14 - 35% of college students (Gratz 2001, Favazza 1989)

61,2% lifetime prevalence of adolescents admitted to inpatient psychiatric units (DiClemente et al. 1991)

Profile of Ziprasidone:

Ziprasidone is a Benzisothiazolylpiperazin chemically not related to any other AN. It is a D2 and 5HT2A antagonist with a higher affinity to 5HT2A than D2 binding sites (high 5HT2A to D2 binding affinity ratio). Ziprasidone's further antidepressant potential originates from its 5HT1A and 5HT1D agonism and its moderate inhibition of the Serotonin and Noradrenalin reuptake. A weak affinity to H1 receptors results in a low potential for weight gain and sedation. Ziprasidone has little potential for interaction with drugs metabolised by cytochrome P450. The high 5HT2A to D2 ratio and weak H1 affinity suggest positive effects on symptom reduction without significant side effects such as weight gain.

Methods:

We report a retrospective chart review of 16 female inpatients (age range 13;10 - 17;11, mean: 15; 3), receiving psychopharmacotherapy to reduce SIB under naturalistic treatment conditions. The mean length of stay at the inpatient ward was 130 days (range: 35- 191 days).

All patients fully met the DSM-IV criteria for Cluster-B personality disorder, though their low age did not allow the diagnosis in clinical practice. According to Favazza (1998) we defined SIB as deliberate, non-suicidal destruction of one's own body tissue such as skin cutting, carving, and burning, and interference with wound healing. We excluded major and stereotypic forms of SIB.

We compared two groups, one with Ziprasidone alone or in addition to a SSRI and one with other neuroleptics alone or in addition to a SSRI. Assessments included: 1.) Ziprasidone dose (range 20-80mg; mean 54,3mg; SD 11,3), 2.) effectiveness measured as reduction of self-injuring events per day, 3.) adverse event (QT-prolongation) and 4.) weight.

References:

Sallee, F.-R.; Gilbert, D.-L.; Vinks, A.-A.; Miceli, J.-J.; Robarge, L.; Wilner, K.: Pharmacodynamics of ziprasidone in children and adolescents: impact on dopamine transmission. J-Am-Acad-Child-Adolesc-Psychiatry. 2003 Aug; 42(8): 902-7

Nasreen Roberts, MBBS, MRCPsych (UK), FRCPC, Adolescent Self-Mutilatory Behavior: Psychopharmacological Treatment. Child & Adolescent Psychopharmacology News. 2003 Aug; Vol.8/5: 10-12

Favazza, M.D., M.P.H., The coming of age of self-mutilation. Journal of Nervous and Mental Disease. 1998 May; Vol. 186/5: 259- 268

Results:

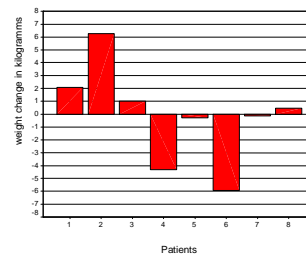
SIB:

In the Ziprasidone group (n=8) with a dose range 40 - 80mg/d we found a 47,33% decrease in the rate of SIB measured as events of deliberate self-harm per day (range: 0,01 - 0,33 before ziprasidone vs. range: 0,00 - 0,18 after titration; p=0,03). In the group (n=8) treated with Risperidone (n=4), Olanzapine (n=1), Chlorprothixen (n=2) and Promethazine (n=1) we found a lower symptom reduction rate of 17,82% (range: 0,02 - 0,27; before treatment vs. range 0,00 - 0,33 after full treatment dose), which was statistically not significant (p=0,53).

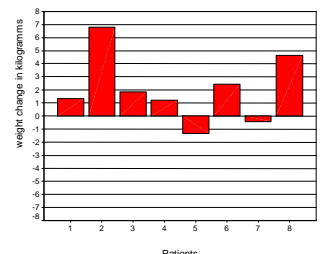
Weight:

In the group treated with Ziprasidone we found no significant effect of the drug regimen on the patients weights (mean: -0,11kg; p=0,78) whereas we observed an average weight gain of 2,06kg. (p=0,05) in the comparison group.

Tab.1: Differences of mean weight in Ziprasidone group (n=8) before and under medication



Tab.2: Differences of mean weight in control group (n=8) before and under medication



Side effects:

Patients reported no major adverse effects.

As serious events we observed 4 suicidal attempts with various stored medications and over-the-counter drugs from outside the hospital. In all cases high paracetamol (acetaminophen) doses led to an ICU surveillance without further medical treatment. All 4 were between age 14;0 and 14;5 at admission and had a combination of Ziprasidone and SSRI.

Conclusion:

Ziprasidone may be a useful alternative in the treatment of SIB due to impulse control deficits with similar or even better effects on symptom reduction rate than other ANs and less increase in weight. These weight indifferent effects may lead to a better compliance in the group of adolescent females prone to drop out of pharmacotherapy due to weight gain.

This chart review demonstrates promising results of Ziprasidone as an efficient medication for reducing SIB. The reported suicide attempts may suggest a monotherapy especially in the young age group

A liquid form of Ziprasidone to prevent suicide attempts and a prospective, controlled trial are needed.